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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/812,146

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Jagjeet Bhatia

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EXAMINER

TON, ANTHONY T

ART UNIT

PAPER NUMBER

2661

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6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,146

Applicant(s)

BHATIA, JAGJEET

Examiner

Anthony T Ton

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4 and 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. **Claims 13 and 18** are objected to because of the following informalities:

In line 5 of Claims 13 and 18 recite term “**thememory**” is improper.

Examiner suggests changing this term to “**the memory**”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-3, 5-9, 11, 13-15, 17-20, 22-25, 27-30 and 32** are rejected under 35

U.S.C. 102(e) as being anticipated by **Merchant et al.** (US Patent No. **6,680,945**) hereinafter referred to as **Merchant**.

a) **In Regarding to Claim 1: Merchant disclosed** a virtual local area network (VLAN) classification system for a switching node characterized in that an inbound packet having a VLAN identifier is assigned to a VLAN in accordance with a classification mode selectable from ones of classification modes (*see col.10 line 51 – col.11 line 6*).

b) **In Regarding to Claim 2: Merchant further disclosed** the VLAN classification system of claim 1 further characterized in that one of the selectable ones of classification modes

causes the inbound packet to be assigned to a VLAN associated with the VLAN ID from the packet (*see Fig.6: table 603; and col.11 lines 33-38*).

c) In Regarding to Claim 3: Merchant further disclosed the VLAN classification system of claim 1 further characterized in that one of the selectable ones of classification modes causes the inbound packet to be assigned to a VLAN associated with an ingress port (*see col.14 lines 3-8: input port (hence ingress port)*).

d) In Regarding to Claim 5: Merchant disclosed a virtual local area network (VLAN) tagging system for a switching node characterized in that a VLAN ID in an outbound packet is modified or not in accordance with a tagging mode selectable from ones of tagging modes (*see col.13 line 52 – col.14 line 8*).

e) In Regarding to Claim 6: Merchant further disclosed the VLAN tagging system of claim 5 further characterized in that one of the selectable ones of tagging modes causes the VLAN ID in the outbound packet to be retained as received (*see col.10 lines 47-50: send frame unmodified; and see col.12 lines 38-52*).

f) In Regarding to Claim 7: Merchant further disclosed the VLAN tagging system of claim 5 further characterized in that one of the selectable ones of tagging modes causes the VLAN ID in the outbound packet to be replaced with a VLAN ID to which the outbound packet is classified at inbound (*see col.13 line 67 – col.14 line 8*).

g) In Regarding to Claim 8: Merchant further disclosed the VLAN tagging system of claim 5 further characterized in that one of the selectable ones of tagging modes causes the VLAN ID from the outbound packet to be removed without substitution (*see abstract and col.10 lines 40-50*).

h) In Regarding to Claim 9: Merchant disclosed a switching node having a plurality of ports interconnected across a switching link (*see Fig.2*), characterized in that a first one of the ports has a first VLAN classification mode operative thereon (*see Fig.2: 24*), further characterized in that a second one of the ports has a second VLAN classification mode operative thereon (*see Fig.2: 20*), wherein the first and second VLAN classification modes are different (*see col.4 lines 34-42*).

i) In Regarding to Claim 11: the subject matters of this claim are similar to that of the claim 9, **except for** the modes are the tagging modes. However, Merchant also disclosed such tagging modes (*see col.12 lines 43-52*).

j) In Regarding to Claim 13: Merchant disclosed a virtual local area network (VLAN) classification system for a switching node including:

a memory for storing a VLAN classification mode selectable from ones of VLAN classification modes (*see Fig.2: 42*); and

an ingress port controller coupled to the memory, the ingress port controller receiving an inbound packet on an associated ingress port and assigning the inbound packet to a VLAN based on the stored VLAN classification mode (*see Figs.1 and 2: 32 and 40; and col.5 lines 58-67: CPU 32 and IRC 40*).

k) In Regarding to Claim 14: Merchant further disclosed the system of claim 13, wherein the inbound packet includes a VLAN identifier, and the stored VLAN classification mode causes the inbound packet to be assigned to a VLAN associated with the VLAN identifier (*see Fig.6: table 603; and col.11 lines 33-38*).

l) **In Regarding to Claim 15: Merchant further disclosed** the system of claim 13, wherein the stored VLAN classification mode causes the inbound packet to be assigned to a VLAN associated with the ingress port (*see col.14 lines 3-8: input port (hence ingress port)*).

m) **In Regarding to Claim 17: Merchant further disclosed** the system of claim 13, wherein a first ingress port controller is coupled to a first memory for storing a first VLAN classification mode and a second ingress port controller is coupled to a second memory for storing a second VLAN classification mode, wherein the first and second VLAN classification modes are different (*see Figs 3A: MAC port 1 and MAC port 2, buffer queue and CPU IF logic*).

n) **In Regarding to Claims 18-20 and 22:** the subject matters of these claims are similar to that of the claims 13-15 and 17, respectively, **except for** the modes are the tagging modes. However, Merchant also disclosed such tagging modes (*see col.12 lines 43-52*).

o) **In Regarding to Claims 23-25 and 27:** these claims are rejected for the same reasons as Claims 13-15 and 17, respectively because the apparatus in Claims 13-15 and 17 can be used to practice the method steps of Claims 23-25 and 27.

p) **In Regarding to Claims 28-30 and 32:** these claims are rejected for the same reasons as Claims 18-20 and 22, respectively because the apparatus in Claims 18-20 and 22 can be used to practice the method steps of Claims 28-30 and 32.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 4, 16, 21, 26 and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Merchant** (US Patent No. **6,680,945**) in view of the *Admitted Prior Art*.

a) **In Regarding to Claims 4 and 16: Merchant disclosed** all aspects of these claims as set forth in claims 1 and 13, respectively.

Merchant generally recites an expansion port for transferring data between other switches according to a prescribed protocol (*see col.5 lines 22-27*) but **fails to explicitly recite** a system that characterized in one of the selectable ones of classification modes causes the inbound packet to be assigned to a VLAN associated with **a protocol type of the packet**.

In the **instant specification**, the Applicant has admitted that two standards have emerged for defining VLAN classification protocols, namely IEEE Standard 802.1Q entitled "IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridge Local Area Networks," 1998, and IEEE Draft Standard 802.1V entitled "Draft Standard for Supplement to IEEE 802.1Q: IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridge Local Area Networks," 2000, the contents of which are hereby incorporated by reference. Standard 802.1Q provides two basic VLAN classification rules: (1) if an inbound packet contains a tag header having a valid VLAN ID, assign the packet to a VLAN associated with the VLAN ID; and (2) if an inbound packet does not contain a tag header having a valid VLAN ID, assign the packet to a VLAN associated with the ingress port. Standard 802.1V adopts rule (1) and modifies rule (2) as follows: if an inbound packet does not contain a tag header having a valid VLAN ID, assign the packet to a VLAN associated with **the protocol type of the inbound packet** from within a protocol VLAN set associated with the ingress port.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a system that characterized in one of the selectable ones of classification modes causes the inbound packet to be assigned to a VLAN associated with a protocol type of the packet, as taught by the admitted prior art with Merchant, so that a data packet can be properly transmitted throughout other communications systems in different types of VLANs. The motivation for doing so would have been to provide information that can be used to identify an appropriate destination VLAN in virtual local area networks. Therefore, it would have been obvious to combine the admitted prior art with Merchant in the invention as specified in the claims.

b) **In Regarding to Claim 21:** the subject matters of this claim are similar to that of the claim 16, **except for** the modes are the tagging modes. However, Merchant also disclosed such tagging modes (*see col.12 lines 43-52*). Therefore, it would have been obvious to combine the admitted prior art with Merchant in the invention as specified in the claims 4 and 16.

c) **In Regarding to Claim 26:** this claim is rejected for the same reasons as Claim 16 because the apparatus in Claim 16 can be used to practice the method steps of Claim 26.

d) **In Regarding to Claim 31:** this claim is rejected for the same reasons as Claim 21 because the apparatus in Claim 21 can be used to practice the method steps of Claim 31.

6. **Claims 10 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Merchant** (US Patent No. 6,680,945) in view of **Baucom, Jr. et al.** (US Patent No. 6,658,012) hereinafter referred to as Baucom.

a) **In Regarding to Claim 10: Merchant disclosed** all aspects of this claim as set forth in claim 9.

Merchant generally recites ports 24 and 20 are operative in both inbound and outbound packets (*see Fig.2: 24 and 20; wherein both are operative in full-duplex (hence inbound and outbound packets)*) but **Merchant fails to explicitly disclose** the first and second VLAN classification modes are operative on inbound packets.

Baucom disclosed such first and second VLAN classification modes are operative on inbound packets (*see col.2 lines 22-29: ingress rules*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such first and second VLAN classification modes are operative on inbound packets, as taught by Baucom with Merchant, so that a data packet can be properly monitored throughout a switching node of a virtual local area network. The motivation for doing so would have been to avoid processing bottlenecks in the system and to increase system reliability in a virtual local area network. Therefore, it would have been obvious to combine Baucom with Merchant in the invention as specified in the claim.

b) **In Regarding to Claim 12:** the subject matters of this claim are similar to that of the claim 10, except for the tagging modes are operative on outbound packets. However, Baucom also disclosed such tagging modes are operative on outbound packets (*see egress rules 204 in Fig.2*). Therefore, it would have been obvious to combine Baucom with Merchant for the same reason as in Claim 10.


Examiner Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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7/22/04


Phirin Sam